

**REMARKS**

The Applicant appreciates the Examiner's thorough review of the present application, and respectfully requests reconsideration in light of the following remarks.

According to the office action, the unpatentability is due to:

1. The title of the invention not being descriptive.
2. Claims 1-5, 13-14, 25-27, and 29 being rejected under 35U.S.C.103(a) as being unpatentable over Williams et al. (US6567875) in view of Brief et al.(US6205501).

The following rejections are described below:

- a. Regarding claims 1 and 25 of this invention, the serial interface engine (SIE) has been disclosed in column 4 line 24-62 of Williams; the circuitry has been disclosed in Fig 5, column 5 line17 to column 6 line 48 of Williams; the USB transceiver has been disclosed in Fig7, column 7 line 11-42 of Brief.
- b. The concept of claim 2 of this invention has been disclosed in column 6, line 7-49 of Williams.
- c. The concept of claim 3 of this invention has been disclosed in column 6, line 62 to column7, line 59 of Williams.
- d. The concept of claim 4 of this invention has been disclosed in column 6, line 7-62 of Williams.
- e. The concept of claims 5, 14, 29 of this invention has been disclosed in column 6, line 62 to column7, line 59 of Williams.
- f. Regarding claim 13 of this invention, the generic endpoint state machine, the address/endpoint management mechanism of this invention has been disclosed in column 6, line 7-49 of Williams; and the endpoint variable register has been disclosed in column 6, line 7-28.
- g. Regarding claim 26 of this invention, the step of setting a physical layer block has been disclosed in column 4, line 8-58 of Williams; the step of setting a link layer block has been disclosed in column 6, line 7-49 of Williams; the step of setting up a memory management has been disclosed in column 6, line 62 to column 7 line 59 of Williams; the step of setting up an application interface engine has been disclosed in column 7, line 11-42 of Williams; the step of setting up a memory buffer been disclosed in column 6, line 62 to column 7 line 59 of Williams. Additionally, though

Williams hasn't disclosed that the physical layer block is used to receive or transmit signals, this characteristic has been disclosed in Fig 7, column 7 lines 11-42 of Brief.

h. Regarding claim 27 of this invention, the step of using a serial interface engine to execute the decoding has been disclosed in column 4, lines 8-58 of Williams. Additionally, though Williams hasn't disclosed USB transceiver, this characteristic has been disclosed in Fig 7, column 7 lines 11-42 of Brief.

3. The following claims were indicated to be allowable:
  - a. claim 24;
  - b. claims 6-12, 15-23, 28 and 30-31 were indicated to be patentable if they are rewritten in independent form.

#### **Amendments and Traverse**

In order to comply the requirements of point 1 described above, the title of this applicant has been amended to " USB COMPOUND DEVICE OPERATES A PLURALITY OF DEIVECES BY USING THE SAME USB LOGIC CIRCUIT AND THE METHOD FOR IMPLEMENTATION THEREOF".

The rejection of claims 1-5, 13-14, 25-27, and 29 is respectfully traversed for the following reasons.

First, Williams and Brief are focused on different objects than the claimed invention. Specifically, the object of Williams is utilizing a non-USB device by simulating the operation mode of USB and the object of Brief is to avoid idle USB devices occupying system sources. However, the claimed invention is focused on operating a plurality of USB or non-USB devices.

**Referring to above-mentioned point 2-a**, the Examiner has expressed that SIE 142 in Fig 4 of Williams is similar to SIE in claims 1 and 25 of this invention, and the circuitry in Fig 5 of Williams is similar to the circuitry in claims 1 and 25 of this invention. The circuitry of the claimed invention is directly connected to SIE, where a USB peripheral side SIE 182 is between SIE 142 and circuitry 184 in Fig 5 of Williams. In column 5, lines 31-34 of Williams, it has been indicated that the USB peripheral side SIE 182 is the main difference

between Fig 4 and Fig 5, and therefore the USB peripheral side 182 is an important part of Williams.

Additionally, Examiner has expressed that the USB transceiver 714 in Fig 7 of Brief is similar to the USB transceiver of claims 1 and 25 of this invention. However, according to Fig 7 of Brief, USB transceiver 714 is directly connected to SIE and USB, and the circuitry of claimed invention is not disclosed.

In view of the foregoing, it is submitted that the SIE and circuitry of Williams and USB transceiver of Brief do not teach or suggest the claimed invention. Accordingly, the Examiner is requested to withdraw this rejection.

**Referring to above-mentioned point 2-b**, column 6, lines 7-49 of Williams has described the simulation of a non-USB device, which is characterized by reading non-USB device from a host to a UDS register 186, such that a non-USB device can simulate a USB device. However, in claim 2 of this invention, the address/endpoint configurations are stored in an address/endpoint management mechanism, and USB standard communication protocols are executed according to the types of the endpoints stored in said address/endpoint management mechanism. Consequently, the data storing method and the data types and function described in column 6, lines 7-49 of Williams are different from that in claim 2 of this invention. Accordingly, the Examiner is requested to withdraw the rejection of claim 2.

**Referring to above-mentioned point 2-c**, column 6, line 62 to column 7, line 59 of Williams has described the variation of embodiment of Williams. Additionally, the technology of using a plurality of USB or non-USB devices at the same time has also been mentioned, which is called a "hub". However, according to claim 3 of this invention, a virtual hub is formed by utilizing the USB transceiver, the SIE, the microprocessor or the controller and the address/endpoint configurations. However, in column 6, line 62 to column 7, line 59 of Williams, there is no discussion as to how the hub function is produced. Furthermore, according to Fig7, additional apparatus are necessary when more than one USB or non-USB devices are used. The requirement for these additional features is not necessary, nor recited in claim claims of the invention. Accordingly, the Examiner is requested to withdraw the rejection of claim 3.

**Referring to above-mentioned point 2-d**, column 6, lines 7-62 of Williams have only described the USB register for storing identifier, but fail to indicate the end point variable register for storing the states of the plural end points in claim 4 of this invention.

As described above, the concepts of column 6, lines 7-62 of Williams are different from this claim. Therefore, Examiner is requested to withdraw the rejection of claim 4.

**Referring to above-mentioned point 2-e**, the Examiner has not described the relationship between the elements in column 6, line 62 to column 7, line 59 of Williams and the elements in claims 5, 14, 29 of this invention. Consequently, it is difficult to understand why claims 5, 14, 29 of this invention should be rejected in view of the teachings provided by Williams.

However, according to the analysis of the inventor, column 6, line 62 to column 7, line 59 of Williams and claims 5, 14, 29 of this invention both describe a system of data storing and processing. However, the data of Williams is identifier, but the data of this invention is address/endpoint configurations. Thus the data types are different. Moreover, the two systems in column 6, line 62 to column 7, line 59 of Williams and claims 5, 14, 29 of this invention have different structures.

As described above, the concepts of column 6 line 62 to column 7, line 59 of Williams are different from these claims. Therefore, Examiner is requested to withdraw the rejection of claims 5, 14, and 29.

**Refer to above-mentioned point 2-f**, the traverse of comparison between column 6, lines 7-49 of Williams and address/endpoint management mechanism in claim 13 of this invention can be referred to in the traverse of point 2-c, described above. Additionally, though it is not indicated in the office action, the inventor has guessed that the endpoint variable register in claim 13 of this invention is compared with the UDS register 186 in column 6, lines 7-28 of Williams. However, according to column 6, lines 7-8 of Williams, the data stored in the UDS register 186 is identifier, but the data stored in the endpoint variable register of this invention is the states of the plural endpoints. Hence, the UDS register 186 and endpoint variable register have different functions.

As described above, the concepts of column 6, lines 7-49 of Williams are different from claim 13 of this invention. Therefore, the Examiner is respectfully requested to withdraw the rejection of claim 13.

Referring to above-mentioned point 2-g, according to the indication from the inventors, a portion of claim 26 of this invention and Williams are similar, but there are substantially more differences, which render the teachings of Williams insufficient. The differences include:

g-1:

Column 4, lines 8-58 of Williams and the step of setting up a physical layer block are **similar**.

g-2:

Column 6, lines 7-49 of Williams and the step of setting up a link layer block are **different**.

Please refer to the traverse of above-mentioned point 2-b.

g-3:

Column 6, lines 7-49 of Williams and the step of setting up a memory management unit are **different**.

Please refer to the traverse of above-mentioned point 2-e.

g-4:

Column 7, lines 11-42 of Williams and the step of setting up an application interface engine are **similar**.

g-5:

Column 6 line 62 to column 7, line 59 of Williams and the step of setting up a memory buffer are **different**.

Please refer to the traverse of above-mentioned point 2-c.

g-6:

Fig 7, column 7, lines 11-42 of Brief and the physical layer of this invention are **different**. And the traverse is described as follows.

In column 7, lines 11-42 of Brief, a transceiver 712 which comprises a physical layer receive and transmit signals is shown. However, according to the description in column 7,

line 24 of Brief, the transceiver 712 further comprises MAC. Therefore, it can't be defined that the physical layer of the transceiver 712 is used to receive and transmit signals.

In view of the foregoing differences, the Applicant respectfully submits that the art of record fails to teach the claimed invention of claim 26.

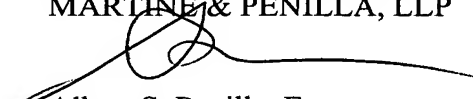
**Referring to above-mentioned point 2-h**, Column 4, lines 8-58 of Williams and the step of setting up a physical layer are similar, as shown in 2-g-1. However, as described in the traverse of 2-a, the step of using the USB transceiver and column 7, lines 11-42 of Brief are different.

As Williams and Brief have failed to teach or suggest the currently claimed invention, the Applicants respectfully request that the Examiner withdraw the current rejections.

A Notice of Allowance is therefore respectfully requested.

If the Examiner has any questions concerning the present amendment, the Examiner is kindly requested to contact the undersigned at (408) 749-6903. If any other fees are due in connection with filing this amendment, the Commissioner is also authorized to charge Deposit Account No. 50-0805 (Order No JLINP083). A duplicate copy of the transmittal is enclosed for this purpose.

Respectfully submitted,  
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